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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHAMBLISS, ALONZO

ART UNIT PAPER NUMBER

2827

DATE MAILED: 06/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/732,821

Applicant(s)

FJELSTAD, JOSEPH

Examiner

Alonzo Chambliss

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) 38-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 20.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The amendment filed on 11/25/02 has been fully considered and made of record in Paper No. 19. Therefore, claims 38-48 have been cancelled and claims 1-37 are pending in the instant application.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 11/25/02 in Paper No. 20 was filed after the mailing date of the restriction requirement on 8/27/02. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

3. The corrected or substitute drawings were received on 6/5/02. These drawings are approved by the examiner.

Response to Arguments

4. Applicant's arguments filed on 6/5/02 have been fully considered but they are not persuasive.

Applicant alleges Tanaka makes a chip package and does not make a "resistor" as recited in claim 1. This argument is respectfully deemed to be unpersuasive because Tanaka does make a chip package but the recitation that **method of making at least one resistor** in claim 1 has not been given

patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

Applicant alleges Tanaka does not apply an "electrically resistive material" as referred to in claim 1. This argument is respectfully deemed to be unpersuasive because a sealing resin is electrically resistivity since ever material has some level of electrically resistivity however small is may be. It is well known that sealing resins are less electrically resistive than material made from conductive or semiconductive materials. However, the fact remains that sealing resins are made of a material that has some degree of electrical resistivity and when used with Tanaka would not short circuit the device, since the level of electrical resistivity is so small the device would not short circuit.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4, 5, 10-12, 14, 15, 20, 24, 27, 29, 37, and 38, insofar as some of them being definite, are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka (JP 3-94459).

With Claims 1, 4, 5, 29, and 38, Tanaka teaches a sacrificial layer 36 having a first surface and one or more pads 34b including at least one electrically conductive material disposed over at least one region of the first surface. A electrically resistive material 22 is deposited over the pads 34b and over the first surface of the sacrificial layer 36 to thereby form at least one unit including the material 22 and the pads 34b. The electrically resistive material 22 does have some degree of electrical resistivity. The material 22 has cavities 42b in the first surface of the sacrificial layer 36. Conductive material 26 is on the first surface of the sacrificial layer 36, which is placed within the cavities 42b to form conductive pads within the cavities 42b. A portion of the sacrificial layer 36 is removed to expose the pads 34b (see English abstract and figures).

With respect to Claim 10-12, 24, and 37, Tanaka teaches a portion of the aperture layer 13 (i.e. insulating layer) is removed from the first surface of the sacrificial layer then only a portion of the aperture layer 13 remains on the surface of the sacrificial layer 12 (see Fig. 2a). The next step requires that the entire aperture layer 13 be removed from the first surface of the sacrificial layer 12 (see Fig. 2b).

With respect to Claim 14, Tanaka teaches a portion of the sacrificial layer 40 includes etching the sacrificial layer (see Fig. 5b).

With respect to Claim 15, Tanaka teaches the pad 42b is elongated in the horizontal direction when compared to the vertical direction (see Figs. 5a and 5b).

With respect to Claim 20, Tanaka teaches the conductive material 15 is plated on the surface of the aperture layer 13 (i.e. seed layer) (see Figs. 2a and 2b).

With respect to Claim 27, Tanaka teaches a portion of the sacrificial layer 40 is separated from the resin material 22 (i.e. resistive material) while leaving some of the sacrificial layer intact (see Fig. 5b).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 3, 25, 26, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka (JP 3-94459) as applied to claims 1 above, and further in view of Lake et al. (U.S. 5,937,512).

Tanaka fails to disclose a single sacrificial layer separated from a resistor and then the resistor is subdivided into different units. However, with respect to Claims 2, 3, 25, 26, and 31, Lake discloses using a single sacrificial layer 10 separated from a resistor 18 and then subdivided into different units (see col. 3 lines 38-41 and 55-59). Therefore, it would have been obvious to use the separation step with Tanaka, since creating several devices simultaneously would save time, money, and increase productivity as shown by Lake.

Allowable Subject Matter

9. Claim 6-9, 13, 16-19, 30, 33-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: the prior art of record does not teach the combination of cavities on the first surface of the sacrificial layer include providing an apertures in the aperture layer. Depositing a first conductive material in the cavities and then depositing a second conductive material in the cavities of the sacrificial layer. Each of the pads includes a post and one flange wider than the post portion. Each of the pads having a hollow shell with the cavities in the sacrificial layer, wherein a material is applied into the hollow shells.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should

preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

The prior art made of record and not relied upon is cited primarily to show the process of the instant invention.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning the communication or earlier communications from the examiner should be directed to Alonzo Chambliss whose telephone number is (703) 306-9143. The fax phone number for this Group is (703) 308-7722 or 7724.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-7956

AC/June 13, 2003

A handwritten signature in cursive script, appearing to read "Alonzo Chambliss".

Alonzo Chambliss
Patent Examiner
Art Unit 2827